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Record Farm Output Still in Sight

DURING July, drought cut down farm production prospects in some parts of the country, especially in the South. As a result, the Nation's farm output this year is expected to be down almost 3 percent from the levels indicated on July 1. On that date, total 1952 farm output promised to be 45 percent above the 1935-39 average. However, on the basis of the August 1 crop report, prospective output is down to 41 percent above 1935-39.

If the August 1 indications are realized when the harvest is over, the output index of 141 would be only about 1½ percent above last year but would still be the greatest of record. We would have our third largest total crop production and an all-time high output of livestock and livestock products.

Our great strides in farm technology over the last 15 years underlies the possible record output of this year. More and more machinery, fertilizer, and other production goods from the nonfarm economy are being used by farmers. Increase in output is being obtained with little change in acreage of cropland and actually fewer man-

hours of farm labor. Production per man-hour, per acre, and per breeding unit of livestock still promise to be at, or near, a record high in 1952.

This year's drought damage emphasizes the fact that farmers are always at the mercy of extreme weather. Science cannot yet control it. However, modern farm technology does give us greater assurance of a large output each year. Widespread droughts, such as in 1934 and 1936, are an ever-present threat but rare in occurrence. In recent years we occasionally have had a relatively short corn crop, or wheat crop, or poor harvests of other crops in local areas. But since our agriculture is highly diversified and continental in sweep, the total farm output of the Nation is seldom greatly reduced by poor weather in limited areas. The drought in 1952 has seriously hurt many farmers in several States, but the damage is not great enough to threaten our over-all supplies of food, fiber, and tobacco.

Glen T. Barton

Bureau of Agricultural Economics

Agricultural Production in 1952, With Comparisons— 1935-39=100

Item	1945	1950	1951	Indicated 1952 ¹	
				July	August
Total farm output.....	129	136	139	145	141
Food livestock production ²	137	138	145	148	148
Crop production ³	121	127	129	135	130
Farm-produced power ⁴	76	50	46	41	41
Total man-hours of farm work ⁵	95	83	86	83	83
Output per man-hour.....	136	164	162	175	170
Land used for crops ⁶	100	99	101	101	101
Crop production per acre.....	121	128	128	134	129
Animal units of breeding livestock ⁷	123	115	118	120	120
Food livestock production per breeding unit.....	111	120	123	123	123
Volume of farm power and machinery ⁸	126	164	171	176	176

¹ Indications for 1952 based chiefly on July and August 1952 reports of the Crop Reporting Board.

² Dairy products, poultry products, meat animals, wool and mohair.

³ All crop production including production of feed for farm horses and mules.

⁴ Not included in total farm output. Farm-produced power production includes the feed and pasture consumed by horses and mules, and the product added in converting this feed and pasture into animal power.

⁵ In terms of time that would be required by adult males.

⁶ Sum of the estimated acreage from which one or more crops are harvested plus acreage of crop failure and summer fallow.

⁷ All breeding livestock except horses.

⁸ Includes horses and mules.

Adequate Reserves of Storable Farm Commodities

IN these times, few people will question the Nation's need for adequate reserves of farm products—reserves big enough to cushion the shock of emergencies such as war or severe drought. However, there are differences of opinion when it comes to specifying in terms of bushels and bales, just what constitutes an adequate reserve.

To supply a wider factual basis for considering this problem, the Senate Committee on Agriculture and Forestry last May released for publication a report, "Reserve Levels for Storable Farm Products," since issued as Senate Document 130. This is the report of a study made by the Bureau of Agricultural Economics at the request of Senator Ellender, Chairman of the Committee. The study deals with factors relating to possible needs for reserves of storable commodities—chiefly wheat, feed grains, and cotton—during the mobilization period.

To Offset Yield Variations

The study itself does not recommend specific storage levels. However, it does analyze yield and other data in order to indicate the stocks or reserve levels which would be necessary to offset specified yield variations for corn, cotton, and wheat. It also states a number of leading policy questions which need to be considered in deciding upon desirable or feasible reserve levels, and the terms under which such reserves might be carried and released.

A major objective of storage policy in recent years has been to reduce fluctuations in farm prices and smooth out the flow of the main storable crops into domestic use and the foreign market. One of the basic causes of such fluctuations is the variability of crop yields and acreage. Variations in crop yields from year to year are mainly due to factors beyond human control. If we do not want such pronounced changes in consumption and exports as occur in crop yields or if we want greater stability in the price structure, a part of the

fluctuations in production must be absorbed by storage operation.

Need for Working Stocks

If stocks are reasonably well balanced as to grades and types, the study indicates, a year-end total of about 100 million bushels of wheat and 2 million bales of cotton would be large enough for working purposes, without considering other needs. About 150 million bushels of corn and an equal combined tonnage of other feed grains (oats, barley, and grain sorghums) would be needed at year-end for similar purposes.

A central feature of the report is an analysis of variations in yields of wheat, corn, and cotton during 1901-50. The analysis assumed that weather and yield fluctuations over the next several years will be similar to those of the first half of this century, with some allowance for trends in yields and in yield variability.

The results indicated about a 50-50 chance that our per-acre wheat yield in any given year will fall within 1 bushel of the trend, the corn yield within 2 bushels, and the cotton yield within 20 pounds.

However, they also indicated about 1 chance in 10 that wheat yield in any year will fall below trend by 3 bushels or more; the corn yield by 5 bushels or more; and cotton yields by 35 pounds or more per acre. With acreage at about current levels, there is a 10 percent chance our total wheat production will fall below the normally expected figure by more than 240 million bushels, that corn production would be down more than 400 million bushels, and cotton production down by more than 2 million bales. On the other hand, there is about a 10 percent chance in any given future year that our wheat production will exceed the trend expectation by more than 200 million bushels, corn production by more than 300 million bushels, and cotton production by more than 2 million bales.

The worst growing conditions met with in any single year during 1901-50 would cut our wheat production 300 to 400 million bushels below trend. It would reduce the normally expected corn production as much as 900 million bushels. If the worst sequence of years for wheat (1933-36) were repeated, the reduction for the period would total over a billion bushels. For corn, another period like 1934-36 would result in a reduction for the period totaling 1½ to 2 billion bushels. However, those years were the worst we have suffered since records began to be kept in 1866. The report holds it would not be feasible to carry stocks great enough to fully protect us against a rare sequence of this sort.

A reasonable objective, the report indicated, would be stocks large enough to offset one very low yield and one moderately low yield in sequence, while maintaining minimum working stocks. This level of reserves could be achieved, it concluded, with year-end carryovers of about 450 to 500 million bushels of wheat, 4.5 to 5 million bales of cotton, and 900 to 1,000 million bushels of corn. Moderate stocks of the other feed grains also would be needed (probably not more than 100 million bushels of corn equivalent beyond working stocks).

Variations in Demand

The domestic demands for wheat and corn (the quantities which would be utilized at unchanged prices) usually change much less from one year to the next than do the sizes of the crops. However, export demand for wheat has fluctuated rather sharply, as have both export and domestic demands for cotton. Swings in the demand for corn over a business or livestock-feeding cycle have also been substantial. But major swings in demand have generally continued in the same direction for two or more years and could be compensated to a considerable extent by changes in crop acreages and even in cultural practices. Thus, no special additional reserves were suggested to meet the normal ups and downs in demand.

Stocks to help meet the initial shock of war or defense mobilization have proved their value twice within the last decade. However, major reliance in

any long-continued war or mobilization emergency must chiefly rest on building up our basic capacity to produce.

Major Policy Questions

The study sets out a number of the major policy questions which are involved in maintenance of sizable storage stocks. It does not try to answer these questions, for they are beyond the domain of the technical economist as such. However, the report does present a number of facts and considerations relating to each of them. The questions are outlined below.

One is, who carries the stocks? On the basis of past experience, it appears that if stocks large enough to offset yield variations are to be carried, substantial portions of them will often have to be carried with Government aid. Attention is also given to the question of where and in whose facilities the commodities may be stored.

A major problem here is how much of the necessary storage facilities could be obtained commercially, and how much additional facilities the Government would need to provide. Commercial storage capacity in 1951 exceeded 2 billion bushels. The total off-farm capacity, commercial plus CCC, appears adequate to handle sizable carry-overs and, at the same time, to market new grain crops of normal size. Some areas still need additional storage capacity, although there is a wider need for *improved* storage facilities.

Also, how much would storage cost, and who would pay for it? As now, a large part of the immediate storage and handling charges would be paid for by individuals. The grain trade now pays for carrying its working stocks as well as some speculative stocks. Farmers carry the storage costs or charges on their corn and wheat loan stocks until possession is actually turned over to the CCC. In the case of cotton, producers also pay the storage charges in case their loans are redeemed.

Storage costs would, of course, be paid by the Government on commodities owned by CCC. Costs to the Government for storage and price-support operations would also depend upon market conditions and the policies fol-

(Continued on page 13)

The Farm Balance Sheet

VALUED at current prices, the assets of agriculture stood at 169 billion dollars at the start of this year, a new high. But the rise from a year ago was mainly because of higher prices. Valued at prices of a year earlier, the physical assets were up only slightly from January 1, 1951—perhaps 2 or 3 percent.

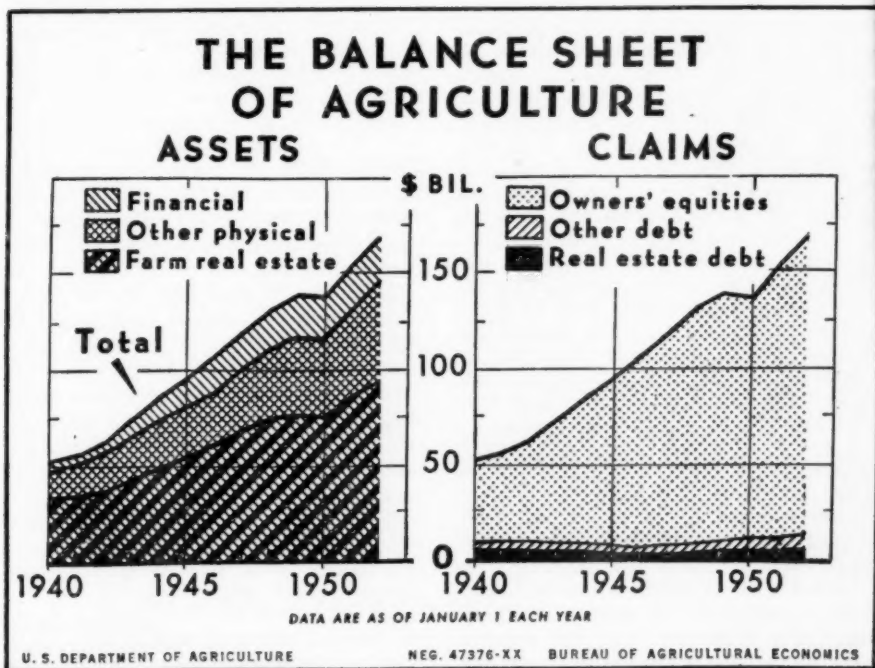
Farmers' holdings of bank deposits, currency, and U. S. savings bonds this January 1 were about 4 percent above January 1951. In the meanwhile, however, the prices of things farmers buy went up more than that. As a result, these assets had about 1 percent less purchasing power than the 1951 total.

At the same time, farm debts (excluding price support loans by the Commodity Credit Corporation) were up 13 percent from 1951, the greatest jump in recent years. Although farmers' cash receipts set a record in 1951, production costs also hit a new high. Result, realized net income of farm operators was a half billion dollars under the 1948 peak.

Part of the increased value of farm assets resulted from larger physical inventories. Farmers' inventory of livestock was 4 percent above a year earlier, and their inventory of machinery and motor vehicles was 6 percent higher. Improvements and additions were made to farm real estate and to household furnishings and equipment. The crop inventory, however, declined about 2 percent.

Farm-mortgage debt rose from about 5.8 billion dollars the year before to about 6.3 billion on January 1, 1952. Non-real-estate farm debt (excluding CCC loans) rose from about 6.2 billion to about 7.3 billion. Farm-mortgage debt has increased about 35 percent since 1946; non-real-estate farm debt (excluding CCC loans) 153 percent.

Despite this debt rise, the equities of farm operators and owners have increased each year since the war except 1949. These equities now amount to 155 billion dollars, 91.6 percent of all farm assets.



A Letter TO CROP REPORTERS

CRAB grass is really bad around Washington this year. In fact it is the pet peeve of most home owners around here who try to have a nice lawn. You can always tell a Washington home owner about this time of year by just looking at his fingers. They have odd looking calluses that are caused by the wiggling of the index finger under the crown of a crab grass plant and then grasping firmly and pulling. The pulling of the pesky plant has its compensation, however, because it doesn't require any thought and as one crawls over the lawn you can just let your mind race through all kinds of subjects.

I pulled a lot of the pesky weed last week and, between wiping the sweat out of my eyes and easing my aching back, I got to thinking about the next Crop Report and a letter I received from a crop reporter up North Dakota way. He had some pretty good ideas about the farmer and crop reports in general. He said he used to hear a lot about how crop estimates didn't mean much to farmers but he didn't hear so much of this sort of complaining any more. He went on to say that the longer he farmed the more he realized that with all the risk that a farmer has to take the more necessary it became that he keep up with the general situation in agriculture as a whole. It's odd in a way because this man had been a reporter for something over 40 years and during the spring I had almost the same comment from two reporters in Kansas, another in Virginia, and two more from Maryland, all of whom had been reporting more than 25 years.

I got to thinking about that, as I yanked at the crab grass, and it seems significant that men from such widely scattered areas, all of whom had been farming for a long time, taking the good with the bad and bucking the vagaries of the weather, all came to the same conclusion. A couple of them made the comment that the reports gave them an opportunity to judge

their situation against an average and helped a lot in making up their minds on marketing and planning for the next season.

It seemed to me, as I straightened a kink out of my back, that these men, practical farmers, had put their finger on a very practical fact. Actually they are thinking just as some of the old timers did back around 1839 who started this service because they didn't have any reports and had no basis for judging their local situation against the whole. I have often heard a fellow say that our figures are cockeyed because they didn't agree with his appraisal. When I was a statistician for Maryland one of my good farmers gave me a bad time because our reported yield of tobacco was below, by a good bit, the yield he figured in his area which was one of our most important tobacco counties. Well I didn't expect that it would agree but I did point out to him that the report was an average for the State and that by having that figure he had something against which he could judge his own situation. Furthermore, he had similar information for Kentucky, Virginia, North Carolina, and other States so he knew how he stood in relation to all of these. We parted pretty good friends and at last report he was still on the list and reporting regularly.

Of course, this is just one example of how crop reports are used but it is just the sort of thing that these men who wrote in were thinking about. All of them were pretty practical men, they had all made good at a difficult job and I have a strong hunch that a lot of others really think along the same line.

Well, the sun was awful hot, my hands were sore, my back ached, and the shade of a nearby tree looked awfully good. Yes—I did.

Sincerely yours,
S. R. Newell, Chairman,
Crop Reporting Board, BAE

How Defense Affects Farm Manpower

THE Nation's defense mobilization has drawn many farm workers into industry and the armed services since mid-1950, although defense needs also called for substantial increases in farm production. The resulting pinch on farm manpower is being closely watched.

To help throw light on the farm manpower problems arising from the defense effort, the Bureau of Agricultural Economics during the past year has made a number of manpower studies and surveys in selected farming areas. Some of these were made in cooperation with the Agricultural Experiment Stations. Others were carried on cooperatively with agencies in the United States Department of Labor directly concerned with recruitment of labor for farm production. Similar studies will continue to be made as mobilization proceeds.

Surveys have been carried through cooperatively with the University of Wisconsin, University of Kentucky, University of Connecticut, and Texas A & M College. In each of these studies the farm manpower problems considered by the States to be especially important determined the general nature of the study.

Four other surveys were made in June this year in cooperation with the Department of Labor. These dealt with the extent of unemployment or partial employment of seasonal hired farm workers, as well as their availability for other jobs. The surveys were made in selected counties in Georgia, Louisiana, Arkansas, and New Mexico.

Preliminary reports of these studies are being issued as rapidly as possible. Illustrations of a few of the preliminary findings are given below.

In Wisconsin, a Statewide survey covered areas of potential supply as well as of potential labor shortage. In the eastern dairy area of Wisconsin, about 8 percent of the farms reported unreplaced losses of regular workers in the year following the Korean out-

break. These farms also showed a decrease in average size of dairy herd.

Concern in Connecticut with the dairy farm labor situation led to a survey of regular labor on dairy farms in the State, focused on losses of labor and turnover in employment. The survey included 40 percent of all commercial dairy farms with 20 or more dairy cows. It showed that 28 percent of the regular workers who had left these farms in the 2 years preceding April 1952 had not been replaced and in about half the cases, farm operators were still looking for replacements. On about one of every six farms where farmers had been unable to replace the regular workers lost, the operators reported they had been forced to curtail production. Among the regular workers who left Connecticut farms during the 2-year period, the survey showed that about 9 percent had enlisted or were drafted into the Armed Forces. However, more than twice as many went into factory jobs as into the armed services. The preliminary results were made available to a State Committee in Connecticut concerned with ways and means of meeting farm manpower problems.

The Texas study was on the utilization of seasonal labor in Lubbock and Crosby counties in the High Plains area, where more than 50,000 seasonal workers were used in the cotton harvesting in 1951. About 90 percent were migratory workers chiefly of Latin-American origin. Texas farmers met the labor situation chiefly through increased use of machine harvesting; 40 percent of the crop had been harvested in this manner as compared to an estimated 15 to 20 percent in 1947 and 1948.

In Kentucky, the survey covered an area in the eastern part of the State. The area is almost entirely rural and has very little industry. Thirty-one percent of the families surveyed reported that one or more family members had left home since 1945 and were living elsewhere. Among the working age population at home, 14 percent reported willingness to take nonfarm jobs if they were available in the community.

Louis J. Ducoff
William H. Metzler
Bureau of Agricultural Economics

More and More Machines on Farms

FARMERS continue to use more and more power machinery in their farm operations. For most kinds of machines, the number on farms now is a new high and still growing.

Preliminary estimates for January 1, 1952, show a total of 4,170,000 tractors of all types on farms in the United States. Reports from crop correspondents, together with annual sales figures of the Bureau of the Census, provide the principal basis for estimating the 1951 and 1952 numbers of tractors and other machines.

Tractor numbers of all types have increased by about 1.2 million since 1948 or an average of nearly 300,000 per year. More than 3.7 million of the 1952 tractors on farms were wheel tractors. Of these, it is estimated that about 98.5 percent were factory-made.

Numbers of farm motor trucks on January 1, 1952, are estimated at 2,410,000, an increase of about 200,000 over the 1950 Census figure.

Numbers of automobiles on farms have changed little in more than 20 years. The substantial decline in number of farms from 1945 to 1950 contributed somewhat to the smallness of the increase since 1945.

Numbers of combines on farms continue to increase rapidly. Domestic sales of combines in the past three years have exceeded 300,000 units. In the prewar period, 1935-39, annual purchases of combines averaged only about 25,000 units.

Increase in numbers of mechanical field-type corn pickers have been pronounced in recent years. Around half of the corn pickers on farms in 1952 were purchased during the preceding 4 years.

Preliminary estimates show that about 690,000 farms were equipped with milking machines on January 1, 1952. Although more and more farms are using milking machines, the rate of increase has slowed in recent years.

Principal Machines on U. S. Farms January 1, 1910-52¹

[In thousands]

Year	Tractors				Autos	Motor-trucks	Grain combines	Field corn pickers	Number of farms with milking machines
	Wheel including home-made	Crawler	Garden	Total					
1910				1	50		1		12
1920				² 246	² 146	² 139	4	10	55
1930				³ 920	³ 135	³ 900	61	50	100
1940				1,545	³ 144	³ 1,047	190	110	175
1941				1,675	4,330	1,095	225	120	210
1942				1,885	4,670	1,160	275	130	255
1943				2,100	4,350	1,280	320	138	275
1944				2,215	4,185	1,385	345	146	300
1945	2,255	99	68	² 2,422	² 4,148	² 1,490	² 375	168	² 365
1946	2,374	106	80	2,560	4,260	1,550	420	203	440
1947	2,500	113	122	2,735	4,350	1,700	465	236	525
1948	2,700	121	159	2,980	4,225	1,900	535	299	575
1949	2,990	133	192	3,315	4,290	2,065	620	372	610
1950	³ 2,257	144	216	³ 3,617	⁴ 4,207	⁴ 2,210	⁴ 714	⁴ 456	⁴ 636
1951	3,531	154	255	3,940	4,280	2,310	810	522	655
1952	3,712	164	294	4,170	4,350	2,410	887	588	686

¹ "Facts for Industry" reports of the Bureau of the Census, annual registrations of motor vehicles, and results of enumerative surveys were used in developing estimates for years and machines not covered by census reports.

² Census figures.

³ Census figures. The average date of the census in these years was about April 1.

⁴ Preliminary census figures. The average date of the 1950 census was about April 1.

Farmers Go Further in Debt Each Year Since War

FARMERS as a whole have been going further into debt each year since World War II. Both farm-mortgage debt and non-real-estate debts of farmers have risen steadily since January 1946.

By the first of this year, farm-mortgage debt totaled 6.3 billion—up 8 percent from a year earlier. This was the sharpest annual rise in over 30 years. As of January 1, the non-real-estate debt of farmers, excluding price-support loans made or guaranteed by the Commodity Credit Corporation, was estimated at 7.3 billion dollars. But, in the early part of 1952 there were some indications that the rate of increase of the non-real-estate farm loans was declining.

Increases in the farm-mortgage debt in 1951 were shown in all States and ranged from 24 percent in Florida to 0.8 percent in New Hampshire. The smallest percentage increases generally were in the New England and Middle Atlantic States and the largest in the South Atlantic, Mountain, and Pacific States.

About 40 percent of the half-billion-dollar increase in the 1951 farm-mortgage debt was held by individuals and miscellaneous lenders. Thirty-eight percent of the increase was held by life insurance companies and 10 percent by Federal land banks.

Farm-mortgage holdings were increased by all major groups of lenders in 1951. Life insurance companies gained 14 percent, Farmers Home Administration 9 percent, individuals and miscellaneous lenders 8 percent, and insured commercial banks 3.9 percent.

These individuals and miscellaneous lenders held 40 percent of the farm-mortgage debt outstanding at the beginning of 1952, while life insurance companies held 24 percent, insured commercial banks and Federal land banks 16 percent each, the Farmers Home Administration 4 percent, and the Federal Farm Mortgage Corpora-

tion, which is now being liquidated, less than 1 percent.

An increase of 14 percent in the average size and 7 percent in the total dollar amount of new mortgages recorded accounted for the substantial rise in the farm-mortgage debt during 1951, notwithstanding, a 6 percent decline in the number of new mortgages and a small increase in the dollar amount of mortgages paid and released.

The increase in the average size of mortgages from \$4,700 in 1950 to \$5,350 in 1951 was associated with a 9 percent increase in the average value of farm real estate from March 1951 to March 1952. Credit-financed farm sales were 63 percent of the total in 1951 compared with 60 percent in 1950.

In 1951, 284 million dollars, about 9 percent more than in 1950, was paid as interest on farm mortgages. The higher interest charges were the result of the higher amount of farm-mortgage debt outstanding. On January 1, 1952, the average interest rate paid on farm mortgages was the same as last year, 4.7 percent.

Over 4 billion dollars of the non-real-estate debt of farmers was owed to banks, the Farmers Home Administration, production credit associations, and private lenders discounting with Federal intermediate credit banks. During 1951 the non-real-estate loans of these lenders increased 21 percent.

The non-real-estate debt of farmers to the principal lending institutions increased 144 percent in the postwar period. Rising costs of production and heavy expenditures for improvements and equipment for both farm and home resulted in the postwar credit expansion.

Farm loans held or guaranteed by the Commodity Credit Corporation amounted to 578 million dollars on January 1, 1952. This figure was 28 percent less than in 1951 and two thirds less than in 1950 because of lowered price support activity.

Outlook Highlights

..... SEPTEMBER 1952

CONSUMER DEMAND is still strong. Personal incomes were at record highs in June, although they may have slipped off a little in July owing to the widespread work stoppages. Consumer credit has grown substantially in recent months. Retail buying appears to be continuing at high level. Business inventories went down in July partly because of the lower output of some durable goods industries.

Milk

With demand continuing strong, prices for fluid milk and manufactured dairy products have begun to advance, though no more than seasonally so far.

Eggs

Egg prices rose again in August after declining from the peak reached in mid-July. Indications are that they will continue to rise seasonally.

Wheat

Recent legislation provides for mandatory 90-percent-of-parity support prices again for the 1953 wheat crop. This means that the support level may not be much different than the \$2.20 for the 1952 crop.

Cotton

With this year's cotton crop estimated at 14.559 thousand running bales as of August 1, the supply of cotton in the United States for the 1952-53 crop year is estimated at 17.5 million bales. The supply includes the August carryover of 2.7 million bales and estimated imports of about 150,000 bales.

The indicated 1952-53 supply is only about 100,000 bales more than that at the start of the 1951-52 season. However, disappearance may fall below 1951-52. The carryover next August 1, 1953, probably will be larger than now.

Disappearance during the past marketing year was 14.9 million bales. This included domestic consumption of around 9.2 million bales, and exports of around 5.6 million. Our own cotton consumption fell 12 percent from

the preceding year, but exports were above any year since 1939-40. We will use more cotton this year than last, but this probably will be more than offset by smaller exports.

Beef Cattle

Although drought struck in a number of Southern States, and in parts of New England, the Southern Plains, and scattered areas elsewhere during June, July, and early August, there was little selling of cattle breeding herds. Disaster loans were authorized in areas where drought damage was severe, to help tide farmers over the emergency. Owing to the drought, young stock were sold earlier, at lighter weights, and in greater numbers than they would have been otherwise.

Receipts of cattle and calves at 12 public stockyards during the 4 weeks ended August 16 totaled 14 percent above the same weeks a year earlier. However, much of this rise resulted from the increase in numbers being raised. Total cattle slaughter is rising and will continue to increase gradually.

The Mexican border was due to be opened for imports of cattle on September 1. Several hundred thousand cattle are likely to enter in the first year, mostly headed for the ranges rather than for immediate slaughter.

Hogs

Total marketings of hogs this fall and winter will be below a year ago, since the 1952 spring pig crop was 9 percent smaller than the 1951 crop. Prices this fall may decline no more than usual for the season.

Feed Grains

The supply of feed grains and other concentrates was estimated in August at 162 million tons, 5 percent smaller than in 1951-52. A supply of this size would be well above the prewar average, either in total or per animal unit, but it would be smaller than in any of the past four years. The corn supply, based on indications in August, is a little over 3.6 billion bushels, or slightly smaller than in 1951. Feed grain prices in mid-August averaged 7 percent higher than the year earlier, with greatest increases in barley and sorghum grain prices.

Some Problems in the Marketing of Apples

APPLES are the leading commercial fruit crop in the North Central States. The problems of marketing these States' apple crop, which in 1946-49 had an average farm value of more than \$34 million, are important both to producers and to consumers.

Getting apples out of the orchards and into the hands of consumers is a complex job. Relatively little study has been made of certain of the marketing problems involved. Also little has been known about consumers' reactions to such factors as price, display, quality, and competition of other fruits. Because of this, the North Central Regional Technical Committee for Fruit and Vegetable Marketing during the last 4 years has been studying marketing problems in the apple industry, with major emphasis on the influence of certain quality factors on consumer acceptance of apples. A combination

report dealing with three phases of the problem was published from this research. These phases are the retail merchandising of apples; the proportion, cost, and palatability of the edible part of the apple; and marketing margins for Midwestern apples. "Studies in Midwest Apple Marketing" is Special Report 378 released by the Michigan Agricultural Experiment Station in June.

Retail Apple Merchandising

This part of the regional program of marketing research was conducted at Michigan State College by M. E. Cravens with some assistance from the Bureau of Agricultural Economics. The major factors that affected the volume of sales in the selected retail stores in Detroit were the price of apples in relation to competing fruits and the appearance and size of apple displays.

(Continued on page 12)

Lambs

This year's lamb crop is still small, although 2 percent above last year. A reduction of 2 percent in the Western States was more than offset by a 10 percent gain in the Native (Eastern) States. Sheep and lamb slaughter this fall is not likely to differ greatly from last fall.

Deciduous Fruits

During the late summer and fall, grower prices for most deciduous fruits are likely to average about the same as or lower than a year earlier. Total deciduous fruit production is below last year, but the canning demand is reduced because of larger carryover stocks. Apple prices are the main exception. They will be up from 1951 owing to the smaller production and the stronger demand for processing.

Each of the major deciduous fruit crops except sweet cherries is smaller than last year. Total output may be off about 10 percent from last year.

Citrus Fruits

Supplies of fresh oranges and grapefruit will be lighter during late summer than a year earlier. Grower prices are expected to rise further, but may not reach the September 1951 levels.

Truck Crops

Farmers' prices for fresh market truck crops this fall are expected, in general, to remain above a year ago. For most processing crops, they may average as high or slightly higher than last year—but will be slightly lower for spinach, tomatoes, and green lima beans.

(Continued from page 11)

As the price of apples rose in comparison with the price of other fruits, the volume of apple sales grew smaller. An increase of 1 percent in relative price brought approximately a 1 percent decrease in volume of sales but the total value of sales remained about the same.

Appearance of the apples did affect the rate of sales. The better the appearance the higher the rate of sale. Appearance was a good indication of sales appeal, much better than the percentage of grade defects in the apples, which was not related to rate of sale. The appearance rating of apples was slightly lower than the average of other fruit. Compared with other fruit, appearances of apples varied less than their prices.

When the size of the display of apples was increased by 10 percent, the sales volume rose by 6 percent and the value of sales by 4 percent. The larger displays usually featured the lower-priced Midwestern apples and it was the pickup in the sales of these low-priced apples that accounted for the difference between volume and value of sales.

Small volume of sales and the low rate of turn-over were two of the major problems of many of the retail stores studied. Of the 19 stores studied, 8 sold less than a bushel per display lot daily. On the average, there were enough apples in a store for 4 days' sales.

An average of 27 percent of the display space in these stores devoted to fruit was given to apples, although this varied among stores from 19 to 43 percent. For each square foot of display space, the average value of daily sales of apples was \$1.19, compared with \$0.38 for cranberries, the lowest, and with \$3.02 for bananas, the highest.

Edible Portion

What about the edible proportion of apples? The study made at the University of Illinois by R. A. Kelly shows that Midwestern apples compared favorably with those from other areas. The average cost of the edible portion from Midwestern apples was about 15 cents a pound compared with 21 cents for apples from the Northwest. Of

13.1 cents a pound spent for apples, a consumer spent 10.2 cents for edible flesh and 2.9 cents for inedible flesh, including peel.

Bruising caused most of the inedible flesh that developed during marketing. In 1948-49, this damage averaged 5 percent of the total weight of the apples. The peel and core represented about two-thirds of the inedible part of the apples bought.

The retail price of apples was apparently not related to the slight differences in ratings of appearance, color, and texture of raw apples, or color, texture, and flavor of applesauce.

Marketing Margins

In the margins study conducted at Purdue University by D. L. Anderson, retail margins for Midwestern apples varied from 29 to 37 percent and for Western apples from 29 to 32 percent of the retail price. Midwestern growers got about the same percentage of the dollar a consumer spent for apples as those in the West but the Western growers received a higher price for their apples.

The wholesale margin was about 10 percent of the retail price. It paid farmers to deliver directly to retail stores. Those who did so received about 10 percent more for their apples than those who sold through commission houses.

Esther M. Colvin

Bureau of Agricultural Economics

Research Costs and Benefits

Agricultural research has cost the Federal government and the States a total of roughly one billion dollars in the past 30 years, but adds an estimated 2 billion dollars a year to farm income. Much of this has been the fruit of cooperation between scientists in different parts of the Nation. The Food and Agriculture Organization is holding a meeting at Rome, during September, to promote similar cooperation between agricultural research workers in Europe.

Adequate Reserves

(Continued from page 4)

lowed in selling of Government-owned stocks. In the past, CCC has had almost no losses on the commodities considered here. For the future, also, the final costs to the Government for carrying or assisting in carrying stocks of the main storable farm commodities might continue to be negligible, or relatively small. In the past, it was pointed out, the CCC has foregone large potential profits on several occasions in the interest of economic stability.

The question of who benefits from a storage policy is also discussed. Stable supplies of corn are shown as of primary importance to livestock feeders and to processors and consumers of livestock products. If it is desired to hold or to increase export markets, the longer run interest of wheat and cotton producers makes it advisable to meet normal export demand for their commodities in full or certainly in substantial part even in years of short domestic crops. If our producers are not able to supply the export demands, importing countries will feel an incentive to increase their own production as well as to arrange for supplies from other exporters. In the case of cotton, high prices or short supplies provide an incentive for textile manufacturers

both here and abroad to extend their use of synthetic fibers.

The price effect of stocks under loan or in CCC ownership would depend upon the conditions under which those stocks were held. When CCC is prohibited from selling stocks at less than a stated price its stocks would not be a part of the market until that price was reached. Experience has shown that the effects of farm and CCC stocks upon prices can be reasonably well controlled through setting the loan levels, producer privileges, and release policies to be applied.

Existing legislation affecting storage.—The study spells out, on the basis of certain assumptions, the levels of stocks which are implicitly set up as desirable under current agricultural legislation. The stock levels at which proclamation of marketing quotas becomes mandatory are not very different from those indicated as necessary to meet yield contingencies. The implied target level of stocks when allotments and quotas are applied is somewhat lower than the "yield-offsetting" level in the case of wheat and is greatly below it in the case of corn. The "target level" for cotton is within the specified "yield-offsetting" range.

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Marketing Milk in the South

DAIRYING has long been considered an enterprise that is both well-adapted to diversified agriculture in the South, and in need of expansion to raise nutrition levels of that area. However, comparatively little study was made of the problems that arise in the marketing of dairy products until the Southern Dairy Regional Marketing Project was organized in 1948.

A project report on Seasonality of Supply and Utilization of Milk in the South, 1949, made under authority of the Agricultural Marketing Act of 1946 (RMA, Title II), is to be published as a bulletin in the Southern Cooperative Series. Agricultural Experiment Sta-

tions of the Southern States and the Bureau of Agricultural Economics cooperated. This report discusses the problems that face producers of dairy products in this region.

Many of these problems arise from seasonal fluctuations in deliveries of milk by producers. Supplies of Grade A milk increase rapidly in spring when the quantity used in fluid products declines somewhat. Conversely, in the fall, the quantity of milk produced locally declines but the demand for fluid products increases. This means that much of the milk is supplied from outside areas when it might be produced by Southern farmers.

In 1949, average daily deliveries by milk producers during the month of peak marketings were 139 percent of the average during the month of lowest marketings. But sales of fluid milk products varied only 10 percent during the year.

As a matter of fact, the quantity of milk supplied by local producers during the year was greater by 13 percent than the quantity utilized in fluid products. But because the quantity delivered varied seasonally, local supplies were not large enough in fall and winter, while in spring and summer some of the supply had to go into manufacturing uses.

Milk produced locally was found to be imperfectly balanced with respect to

the proportions of butterfat and skim milk it contained. Butterfat produced was greater than the quantity used in fluid milk products the year round. But for 5 months of the year, the supplies of skim milk produced locally were not adequate.

Cheese, butter and condensed whole milk are the main dairy products manufactured in the Southern States. In 1949, cheese took 33 percent of the 1.7 billion pounds of milk received from producers by Southern manufacturing plants; condensed milk 26 percent; and creamery butter 21 percent. Ice cream mix was the only other product made in any volume.

Of the cheese produced in the South, (Continued on page 16)

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	Average		Aug. 15, 1951	July 15, 1952	Aug. 15, 1952	Effective parity prices Aug. 15, 1952 ¹	
	Base period price ¹	January 1947- December 1949					
Basic commodities:							
Cotton (pound).....	cents.	\$ 12.4	31.22	34.60	37.02	37.92	34.47
Wheat (bushel).....	dollars.	\$ 1.884	2.14	2.05	1.98	2.04	2.46
Rice (cwt.).....	do.	1.95	5.38	4.82	5.55	5.35	5.60
Corn (bushel).....	do.	\$ 1.642	1.64	1.65	1.73	1.73	1.78
Peanuts (pound).....	cents.	\$ 4.8	10.2	10.8 ²	10.3	10.9	13.3
Designated nonbasic commodities:							
Potatoes (bushel).....	dollars.	\$ 1.12	1.60	1.16	2.74	2.78	\$ 1.73
Butterfat in cream (pound).....	cents.	26.7	71.2	68.5	71.8	72.8	76.6
All milk, wholesale (100 lb.) ⁴	dollars.	1.08	4.42	4.46	4.58	4.77	4.82
Wool (pound).....	cents.	20.9	46.0	77.6	52.7	52.0	60.0
Other nonbasic commodities:							
Barley (bushel).....	dollars.	\$ 1.619	1.37	1.17	1.31	1.39	\$ 1.46
Cottonseed (ton).....	do.	26.40	71.60	69.10	71.00	69.80	75.80
Flaxseed (bushel).....	do.	1.65	5.54	3.13	3.68	3.77	4.74
Oats (bushel).....	do.	\$.399	.852	.759	.761	.800	\$.944
Rye (bushel).....	do.	.587	1.82	1.46	1.75	1.77	1.68
Sorghum, grain (100 lb.).....	do.	\$ 1.21	2.53	2.09	2.69	2.90	\$ 2.86
Soybeans (bushel).....	do.	1.00	2.84	2.71	3.00	3.05	2.87
Sweetpotatoes (bushel).....	do.	.902	2.36	2.73	4.46	4.10	2.59
Beef cattle (100 lb.).....	do.	7.36	20.20	28.90	26.00	24.90	21.10
All chickens (pound).....	cents.	11.3	29.3	27.2	26.0	26.5	32.4
Eggs (dozen).....	do.	\$ 21.5	46.6	49.6	43.3	48.3	\$ 50.8
Hogs (100 lb.).....	dollars.	7.49	21.90	20.90	20.00	20.90	21.50
Lambs (100 lb.).....	do.	8.09	21.90	29.80	25.50	25.60	23.20
Veal calves (100 lb.).....	do.	8.21	22.60	31.90	28.80	27.40	23.60
Oranges, on tree (box).....	do.	\$ 2.29	1.23	1.68	1.20	1.06	\$ 3.54
Apples (bushel).....	do.	.991	2.39	1.94	3.13	2.73	2.84
Hay, baled (ton).....	do.	\$ 11.87	22.40	20.40	22.00	24.10	\$ 28.00

¹ Adjusted base period prices 1910-14, based on 120-month average January 1942-December 1951 unless otherwise noted.

² Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1938 as amended by the Agricultural Acts of 1948 and 1949.

³ 60-month average, August 1909-July 1914.

⁴ 10-season average 1919-28.

⁵ Transitional parity, 85 percent of parity price computed under formula in use prior to Jan. 1, 1950.

⁶ Prices received by farmers are estimates for the month.

⁷ Preliminary.

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) ¹	Total income of industrial workers (1935-39=100) ²	Average earnings of factory workers per worker (1910-14=100)	Wholesale prices of all commodities (1910-14=100) ³	Index numbers of prices paid by farmers (1910-14=100)			Index numbers of prices received by farmers (1910-14=100)			
					Commodities	Wage rates for hired farm labor ⁴	Commodities, interest, taxes, and wage rates	Livestock and products			
								Dairy products	Poultry and eggs	Meat animals	All livestock
1910-14 average.....	58	50	100	100	100	100	100	100	100	100	100
1915-19 average.....	72	90	152	158	149	147	148	147	153	162	157
1920-24 average.....	75	122	221	160	159	181	166	159	163	121	140
1925-29 average.....	98	129	232	143	151	184	161	161	155	145	152
1930-34 average.....	74	78	179	107	117	121	124	105	94	83	91
1935-39 average.....	100	100	199	118	124	121	125	119	108	117	115
1940-44 average.....	192	237	315	139	148	211	152	169	145	166	162
1945-49 average.....	186	317	431	204	219	407	229	264	213	291	265
1950 average.....	200	369	516	236	246	428	255	247	181	340	278
1951 average.....	220	425	566	263	271	470	281	284	226	411	335
<i>1951</i>											
August.....	217	426	561	260	271	-----	282	277	231	416	336
September.....	218	429	571	259	271	-----	282	283	247	411	337
October.....	218	425	570	260	272	476	283	294	247	410	340
November.....	219	426	575	260	274	-----	284	305	249	387	332
December.....	218	435	587	260	273	-----	284	314	233	379	328
<i>1952</i>											
January.....	221	429	584	254	275	498	287	316	200	376	320
February.....	222	430	584	253	276	-----	288	317	181	377	317
March.....	221	433	586	252	275	-----	288	305	177	372	310
April.....	216	422	574	251	276	510	289	291	180	372	306
May.....	211	421	580	251	276	-----	289	281	175	394	313
June.....	203	411	584	250	273	-----	286	277	181	380	306
July.....	191	-----	574	251	273	506	286	286	208	376	312
August.....	-----	-----	-----	-----	274	-----	287	295	225	372	316

Year and month	Index numbers of prices received by farmers (1910-14=100)								All crops and live-stock	Parity ratio ⁶
	Crops									
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops		
1910-14 average.....	100	100	100	100	100	100	-----	100	100	100
1915-19 average.....	193	161	183	175	201	126	-----	171	164	111
1920-24 average.....	147	125	189	197	155	157	152	162	150	89
1925-29 average.....	141	118	169	150	135	146	145	143	148	92
1930-34 average.....	70	76	117	77	78	98	104	84	88	71
1935-39 average.....	94	95	172	87	113	95	95	99	107	86
1940-44 average.....	123	119	241	138	170	150	164	145	154	101
1945-49 average.....	222	205	377	240	289	216	206	234	250	109
1950 average.....	224	187	402	280	276	200	185	232	256	100
1951 average.....	243	220	436	335	339	193	239	264	302	107
1951										
August.....	234	215	430	291	294	207	181	244	292	104
September.....	233	216	423	283	288	201	161	239	291	103
October.....	239	219	445	304	296	188	171	247	296	105
November.....	249	224	424	345	307	172	249	267	301	106
December.....	263	233	440	339	309	177	331	280	305	107
1952										
January.....	251	234	431	325	303	171	337	277	300	105
February.....	249	230	436	313	296	168	217	259	289	100
March.....	251	229	435	309	284	176	265	265	288	100
April.....	250	229	435	313	279	179	308	272	290	100
May.....	245	227	436	303	280	190	285	270	293	101
June.....	238	226	437	319	289	220	250	277	292	102
July.....	230	227	436	311	307	214	287	276	295	103
August.....	236	233	436	319	310	206	229	272	295	103

¹ Federal Reserve Board: represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

² Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on payrolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised January 1950.

³ Bureau of Labor Statistics.

⁴ Farm wage rates simple averages of quarterly data, seasonally adjusted.

⁵ Revised.

⁶ Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis.

⁷ 1924 only.

California and Iowa Lead in 1951 Cash Receipts

CALIFORNIA led all other States in cash receipts from farm marketings in 1951. Its total was 2,715 million dollars, a new high. Of this sum, \$1,641 million came from crops and the other \$1,074 million from livestock and livestock products.

The Golden State, at the head of the list for the second straight year and the seventeenth time in the last 22 years, topped second place Iowa's total by 354 million dollars.

Iowa moved up to second place behind California as Texas dropped to third. Illinois followed in fourth place. Farmers in these four States got over a fourth of the Nation's total farm cash receipts of 32,741 million dollars. They have been the top-ranked States since 1924, which is the first year for which complete records are available.

Although California led the Nation in total and crop receipts, Iowa was tops in livestock and livestock products, its receipts totaled over 2 billion dollars. Hogs, cattle, poultry, and dairy products took Iowa to the top in livestock receipts. Illinois and Texas followed Iowa in livestock receipts. California was fourth and Wisconsin fifth.

California's largest crop receipts came from truck crops, cotton, citrus fruits, and grapes. Texas, Illinois, and North Carolina followed California in crop receipts.

Farmers in every State took in more money in 1951 than the previous year. This is true of farmers as a whole, although many individual farmers in every State took in less. Increases ranged from only two percent in Florida to around 40 percent in Wyoming, Nevada, and South Carolina. Receipts from crop marketings were up from 1950 in four-fifths of the States. Livestock receipts were higher in all States.

Marketing Milk

(Continued from page 14)

90 percent was manufactured in the Limestone Valley, Mountain, and Black Belt areas. These areas also produced 67 percent of the output of condensed milk.

Half of the butter produced came from the Limestone Valley area. The Mountain, Loess, and Black Belt areas also manufactured butter in quantity.

In 1949, milk of fluid grade brought producers on the average \$2.43 more than manufacturing milk. Milk imported from outside the region cost about 90 cents more than the local price.

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